apparatus and method for defining segments in a video with respect to preestablished content categories, associating descriptors with the segments according to at least one of the preestablished content categories, and producing a segment map that provides for a variable arrangement of the plurality of segments.

As is detailed with respect to fig. 3 of the specification, the segment map provides, to a video player, the information to automatically exclude segments of a video and create a customized seamless version of the video.

> "To provide for the option of editing-out the explicit bloodshed, the program content map includes an additional segment definition beginning at frame 4112 and ending at frame 5205. The end of this segment 512 is linked to a new transitional segment 513 beginning at frame 35205 and ending at 35350, the end of which is linked to frame 6027." (page 20, lines 5-10)

In terms of current terminology, the claims of the present invention are drawn, principally, to a nonlinear video editing system that is capable of producing a segment map instead of or in addition to the edit decision list ("EDL") produced by current state-of-the-art nonlinear video editing systems.

III. ARGUMENTS

Neither the teachings of the patent to Olivo, nor the similar teachings of the patents to Chard, U.S. Patent No. 4,605,964 and to Vogel, U.S. Patent No. 4,930,160, cited in the IDS, nor any of the other references cited, anticipate, teach, suggest or render obvious the system, method or results of the present invention as claimed.

At the outset it is noted that, contrary to what is suggested in the Office Action, Olivo's video "screening device" does not itself produce the material content signal.

In Olivo:

> "In accordance with this invention, playback equipment owners or operators can equip their program material playback equipment with a program material screening device capable of detecting the material content signal, and the program material screening device can be selectively set (at the option of the owner or operator to automatically disconnect or otherwise interfere with the normal function of the playback equipment in response to the material content signal, thereby preventing replay of the program material." (column 2, lines 36-45)

Olivo's screening device does not anticipate "producing a segment map that provides for a variable arrangement of said plurality of segments" as is recited in each of the present claims. *(1)

With respect to "the electronic components (10) of a videotape recorder apparatus having material content signal (MCS) encoding/decoding in accordance with the present invention" of Olivo (column 8), it is respectfully submitted that the MCS encoding means cannot define a plurality of segments in a video and produce a segment map that provides for a variable arrangement of said plurality of segments, as is recited in each of the outstanding claims of the present invention.

The material content signal of Olivo does not anticipate, teach, suggest, or render obvious the segment map claimed in each of the outstanding claims of the present invention.

Olivo explicitly teaches, with respect to figs. 2A-2C and 3, that, whether the program is received from a broadcast or from,

for example, a VHS tape, each segment of a video, whether replayed in "humanly perceivable form" or not, is played from the video source and transmitted to the playback unit or subsystem. Olivo does not alter the transmission of the segments, a segment is either made visible or invisible.

For example, under Olivo's teachings, a segment containing graphic violence in the motion picture "The Hunt For Red October", beginning at approximately 19 minutes 27 seconds and ending at 19 minutes 50 seconds, is always transmitted to the playback device. Olivo's material content signal does not provide for a variable arrangement of segments.

Since each segment is received by the playback device or subsystem, Olivo teaches: a screening device connected to the playback device (Fig. 2B) that "can prevent playback of all or part of a program by blocking the signal" (column 7, lines 34-35).

Therefore, in preventing the playback of segments, the screening device of Olivo causes a gap in the replay of the transmission. That is, in the playing of "The Hunt For Red October", Olivo's material content signal creates a 23 second gap.

Contrary to the teachings of Olivo and the other references of record, the editing system of the present invention, produces a segment map that provides for a variable arrangement of segments. The map's segment definitions and descriptors enables a player comprising the variable content teachings of the present

invention to rearrange the segments of a video and produce a seamless customized version without any gaps.

As opposed to Olivo's material content signal, the segment map of the present invention provides a player the information necessary for a variable arrangement of the segments of "The Hunt for Red October". The segment map provides the information to create for a viewer who does not wish to view graphic violence, a seamless version of "The Hunt for Red October" that excludes the retrieval, transmission, and replay of the segment containing graphic violence. In this case, the transmission of the motion picture to that viewer is 23 seconds shorter than the transmission of a version provided a viewer that does not object to the graphic violence. The teachings of Olivo do not anticipate, make possible, or render obvious such a rearrangement of segments.

A player utilizing the segment map of the present invention does not require the screening device of Olivo. The segments retrieved from the program source by a variable-content player exclude the undesirable segments. In the variable-content architecture of the present invention, the "Stored Media Screening Device" of Olivo is absent. That is, a player incorporating the teachings of the present invention omits the principal element in Olivo.

It is respectfully submitted that Olivo teaches away from a variable arrangement of segments. For example, Olivo, in attempting to solve the problem it creates by producing a gap in

the replay of the transmission, teaches providing the viewer a:

> "stationary on-screen display (such as a sign proclaiming 'PROGRAM BLOCKED'), a prerecorded message (such as a short video program instructing the viewer on the nature of the program), or, preferably, a series of alternative scenes, corresponding to the program material in context but of a more acceptable (to the owner/operator) content, which are substituted and synchronized with the program material so as to provide what appears to be an uninterrupted program output." (column 7, lines 45-54)

Olivo's "preferably" suggests a recognition of the disadvantages of a "stationary on-screen display" or a "prerecorded message", (e.g. immediate loss of audience). However, on careful scrutiny, it should also be appreciated that Olivo's suggestion for synchronizable alternative scenes is unrealistic.

The teachings of Olivo fail to recognize that in existing films, as is the case for the 23 seconds of graphic violence in "The Hunt For Red October", there are no alternate segments that could maintain synchronization. Even if a future production of a motion picture attempted to provide alternate segments, Olivo's synchronization imposes a costly rigidity to the artistic production of a scene.

Under Olivo's teaching, a viewer who has chosen to exclude graphic violence would, on nearly every instance, be presented with a stationary on-screen display. This is a significant shortcoming of Olivo's material content signal which is avoided by the segment map of the present invention.

In a player comprising the means to utilize the segment map produced by the video editing system presently claimed, there is

no need for a "stationary on-screen display", "a prerecorded message", or "alternative scenes" as is required by Olivo's screening device.

To demonstrate the teachings of the instant specification, an approximate 8 minutes 19 seconds video titled "Control" was produced. A videodisc player, as per the teachings of the present invention, can instantaneously generate upon a request of a viewer any one of over 262,000 possible customized versions of "Control". Each version whether excluding a wide variety of possible objectionable content (3 minutes 31 second) or including the most graphic content in each of a plurality of content categories (7 minutes 58 seconds) is continuous.

This extraordinary video customization capability results from the recognition in the specification that, while it may be advantageous where effective to provide parallel and transitional segments (FIG. 3 of the specification), it becomes counterproductive to impose the synchronization that the material content signal of Olivo requires.

The results produced by the variable arrangement of segments of the present invention are patentably distinguished from the results produced by the material content signal of Olivo.

Further, it should be appreciated that Olivo defines and operates in a broadcast or linear play environment in which a program screening device prevents a player from replaying program material. The present invention operates in a pointcast (video-on-demand) or nonlinear play environment in which a video player,

by using the segment map, creates a customized version of a video. These are two contrasting environments with different operational objectives and structural integration. Olivo's teachings reflect the linearity of broadcast/VHS technologies, while present invention utilizes the random access potential of video-on-demand/videodisc technologies.

Because Olivo's material content encoding system is confined conceptually to the conventional linearity of motion pictures, Olivo fails to anticipate, teach, or suggest generating segment definitions, by, for example, pre-reading the material content signal from the tape with respect to a timecode, to produce a segment map of the motion picture that would enable the VCR player to fast forward past unsuitable segments.

It is respectfully submitted that applying Olivo's teachings to a pointcast or nonlinear play environment is counterproductive and teaches away from a realization of the potential that such advanced environments represent.

For example, Olivo must rely upon and teaches a secondary program source for alternate segments. "Line 302 carries the video output of an alternate program source (APS) (360). The APS (360) can be a second videotape player..." (Column 14, lines 30-32) Olivo cannot attempt to include an alternate segment within a video. Doing so would not solve the problem of the gap that would be created by selecting between alternate segments.

Contrary to the teachings of Olivo, each of claims 72-74 of the present invention recite in part: "defining, responsive to at

least one preestablished content category, a plurality of segments in a video". Olivo's requirement for the "normal video program material" and "an alternate program source" (column 14) to attempt to produce an "uninterrupted program output" does not anticipate the "a video" as recited in the present claims.

Each of the claims of the present invention recite producing a segment map that provides for a variable arrangement of the segments of "a video", not a video and an alternate program source. A player utilizing the segment map of the present invention can produce a customized "uninterrupted program" from any motion picture without requiring an alternate program source.

Further, claims 72 and 74 recite in part: "a plurality of segments in a video, said plurality of segments including at least one parallel segment". The demonstration motion picture segment "Control" is "a video" that includes a number of parallel segments within the single continuous video stream. "Control" is not a video and a separate program source as would be the case under Olivo. Olivo lacks the means or methodology for accommodating "a plurality of segments in a video, said plurality of segments including at least one parallel segment", as is recited in these claims.

Olivo cannot produce the results of a player utilizing the segment map of the present invention because the teachings of Olivo fail to anticipate or render obvious the structure, operation, or function of the segment map of the present invention. The editing system of the present invention produces

a segment map that is patentably distinguished from what is produced by Olivo.

IV. MISCELLANEOUS

With respect to the Office Action's "Response to Amendment", applicant respectfully submits that the arguments presented in the Amendment with respect to Westland, U.S. Patent No. 4,685,003 and other nonlinear editing systems are not moot with respect to Olivo.

The Amendment's explanations of the features and cited advantages of the present invention as claimed, also serve to point out how the outstanding claims are patentably distinguished from the teachings of Olivo. Rather than reiterate each of the arguments, the Amendment is incorporated herein by reference.

Applicant reiterates applicant's previous requests under MPEP § 707.07(f). Applicant respectfully submits that the Office Action only claims that the arguments are moot in view of the new grounds of rejection. The Office Action fails to provide reasons why the asserted advantages are without significance with respect to Olivo.

With respect to the information disclosure statement filed May 15, 1995, upon initial review of Avid Technology Inc.'s ("Avid") "OMF Interchange Specification" ("OMF") applicant did not believe, nor does applicant believe at this time, that the OMF is either relevant art or prior art to applicant's inventions. It is noted that the OMF has a "Copyright 1993, 1994" notice, and that the instant application has a filing date

of February 1992.

Applicant cited the OMF because an officer of Avid claimed that the OMF was relevant prior art to the subject matter of the present claims. Since Avid, a manufacturer of video editing systems, represents a potential competitor, applicant would have preferred that the Office Action consider the art.

Applicant respectfully reiterates applicant's previous requests under MPEP § 707.07(j). Applicant respectfully requests that, if by the arguments herein presented, patentable subject matter is shown to be disclosed in the application and applicant's pending claims are directed to such matter but are not deemed by the Examiner to be entirely suitable, Examiner please draft amendments to the claims to place them in a condition for allowance, or please draft allowable claims for applicant.

If the Examiner would find advantageous, Applicant would be pleased to provide a VHS tape including: i) a demonstration of the videodisc player as per the teachings of the present invention; ii) the customization of "Control"; and iii) broadcasted news segments explaining to viewers the segment map of the present invention.

V. NOTICE OF APPEAL

Contemporaneously with this document, applicant is filing a Notice of Appeal from the Examiner to the Board of Patent Appeals and Interferences. If an actual appeal is made necessary, Applicant would be grateful for receiving from the Examiner